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TITLE : THIN STEEL SHEET FOR
 AUTOMOBILE EXCELLENT IN NOTCH
 FATIGUE STRENGTH AND
 PRODUCTION METHOD THEREFOR

ABSTRACT : PROBLEM TO BE SOLVED: To provide a thin steel sheet for an automobile excellent in notch fatigue strength, and to provide a production method therefor.

SOLUTION: The thin steel sheet for automobile having excellent notch fatigue strength consists of steel having a composition containing 0.01 to 0.3% C, 0.01 to 2% Si, 0.05 to 3% Mn, \leq 0.1% P, \leq 0.01% S and 0.005 to 1% Al, and the balance Fe with inevitable impurities. The average value of the X-ray random intensity ratios in the orientation groups of $\{100\}<011>$ to $\{223\}<110>$ in the sheet surface thereof at an arbitrary depth till 0.5 mm from the outermost surface in the sheet thickness direction is ≥ 2 , and also, the average value of the X-ray random intensity ratios in the three orientations of $\{554\}<225>$, $\{111\}<112>$ and $\{111\}<110>$ is ≤ 4 . The steel sheet has a sheet thickness of 0.5 to 12 mm. In the method for producing the same steel sheet, the steel having the above composition is rolled in the temperature region of the Ar_3 transformation temperature $+100^{\circ}C$ or lower at a total rolling reduction rate of $\geq 25\%$.

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